



# UNITED STATES PATENT AND TRADEMARK OFFICE

5A  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,654	09/24/2001	Koji Motoyama	914-138	5562
7590	06/22/2004		EXAMINER	
NIXON & VANDERHYE P.C. 8th floor 1100 North Glebe Rd. Arlington, VA 22201-4714			ENG, GEORGE	
			ART UNIT	PAPER NUMBER
			2643	
			DATE MAILED: 06/22/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/960,654	MOTOYAMA, KOJI
	Examiner George Eng	Art Unit 2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 24 September 2001.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3.4</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

2. The information disclosure statements filed 8/14/2003 (paper no. 3) and 12/30/2003 (paper no. 4) have been considered.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant admitted prior art in the specification and Yamaguchi (EP 0853378 A2).

Regarding claim 1, Applicant admitted prior art in the specification discloses a low noise down-converter for satellite broadcast receiving comprising a mixer converting a received high frequency signal into an intermediate-frequency signal (page 1, lines 10-15), the mixer including a transistor (50, figure 9) for performing frequency conversion, a bipolar transistor (Tr1, figure

9) having an emitter connected to a drain of said transistor and a collector connected to a gate of said transistor (page 1, lines 26-30). Applicant's admitted prior art in the specification differs from the claimed invention in not specifically teaching a temperature characteristic compensating circuit connected to a base of the first bipolar transistor and canceling a temperature characteristic of the first bipolar transistor. However, Yamaguchi teaches a temperature characteristic circuit (Q3, figure 1) connected to a base of a bipolar transistor (Q2, figure 1), wherein an emitter-base voltage of the temperature characteristic circuit is varied similar to the emitter-base voltage variation of the bipolar transistor when the emitter-base voltage of the bipolar transistor is varied with temperature variation (page 2 line 48 through page 6 line 8), thereby a variation of a drain voltage and a drain current due to temperature variation of the emitter-base voltage of the transistor can be compensated for and the substantial variation of the drain current is prevented. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Applicant admitted prior art in having the temperature characteristic compensating circuit connected to the base of the first bipolar transistor and canceling the temperature characteristic of the first bipolar transistor as per teaching of Yamaguchi, because it compensates for the variation of a drain voltage and a drain current due to temperature variation of the emitter-base voltage of the transistor and prevents the substantial variation of the drain current.

Regarding claims 2-3, Yamaguchi discloses the temperature characteristic compensating circuit including a second bipolar transistor (Q3, figure 1) having a conductive terminal connected to the base of the first bipolar transistor (Q2, figure 1), wherein the first and second bipolar transistors are packing into a dual transistor.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kitaguchi (US PAT. 6,594,477) discloses a double conversion-type electronic tuner including a temperature compensation section to reduce deterioration of the electrical characteristics of the electronic tuner caused by a rise in temperature (abstract). Main et al. (US PAT. 6,407,615) discloses a temperature compensation circuit converting a control signal that has an undesirable temperature coefficient to a temperature compensated control signal having a desirable temperature coefficient (abstract). Tumeo (US PAT. 4,792,987) discloses an antenna coupling system including a low-noise receiving amplifier and down converter circuits for converting the antenna signal down to frequencies compatible with a suitable receiver (col. 2 line 66 through col. 4 line 57).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Eng whose telephone number is 703-308-9555. The examiner can normally be reached on Tue-Fri 7:30 AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A. Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George Eng  
Primary Examiner  
Art Unit 2643